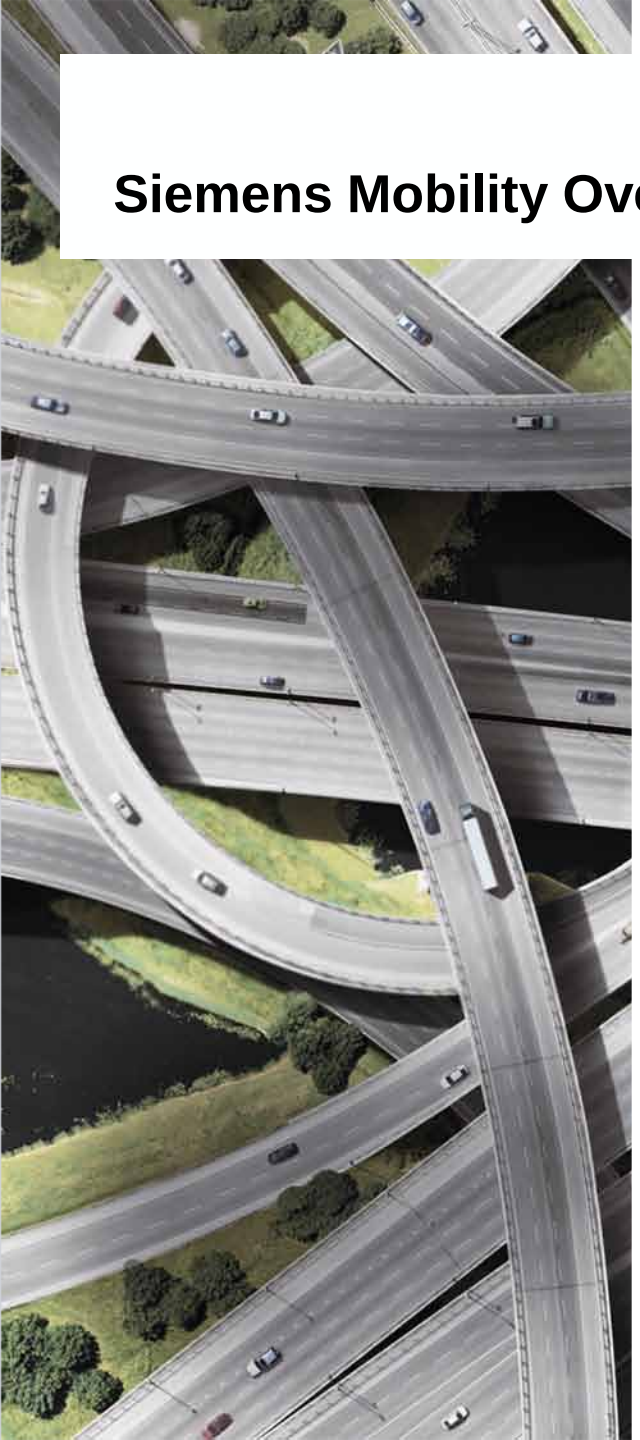
Vendor Perspective

Active Traffic Signal Management Workshop

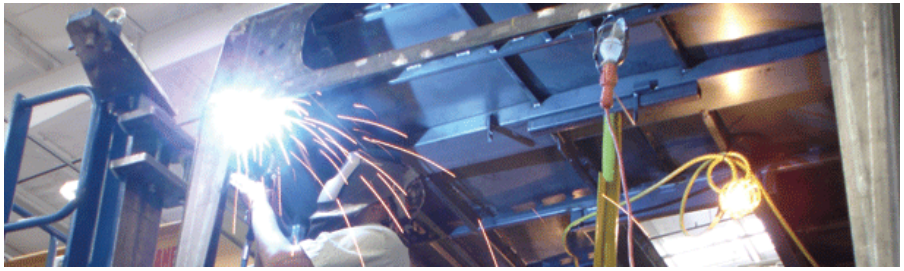
December 13, 2011 **Merrillville, Indiana**

Siemens Mobility Overview



- **Siemens Mobility Overview**
- Standards Development: Lessons Learned
- Users: Diverse, Needing Information not Data
- Vendor Needs: Adoption à Level Playing Field
- Deployment: Correct from the Beginning
- Deployment Status: Apps and Integration

Siemens Infrastructure and Cities Sector



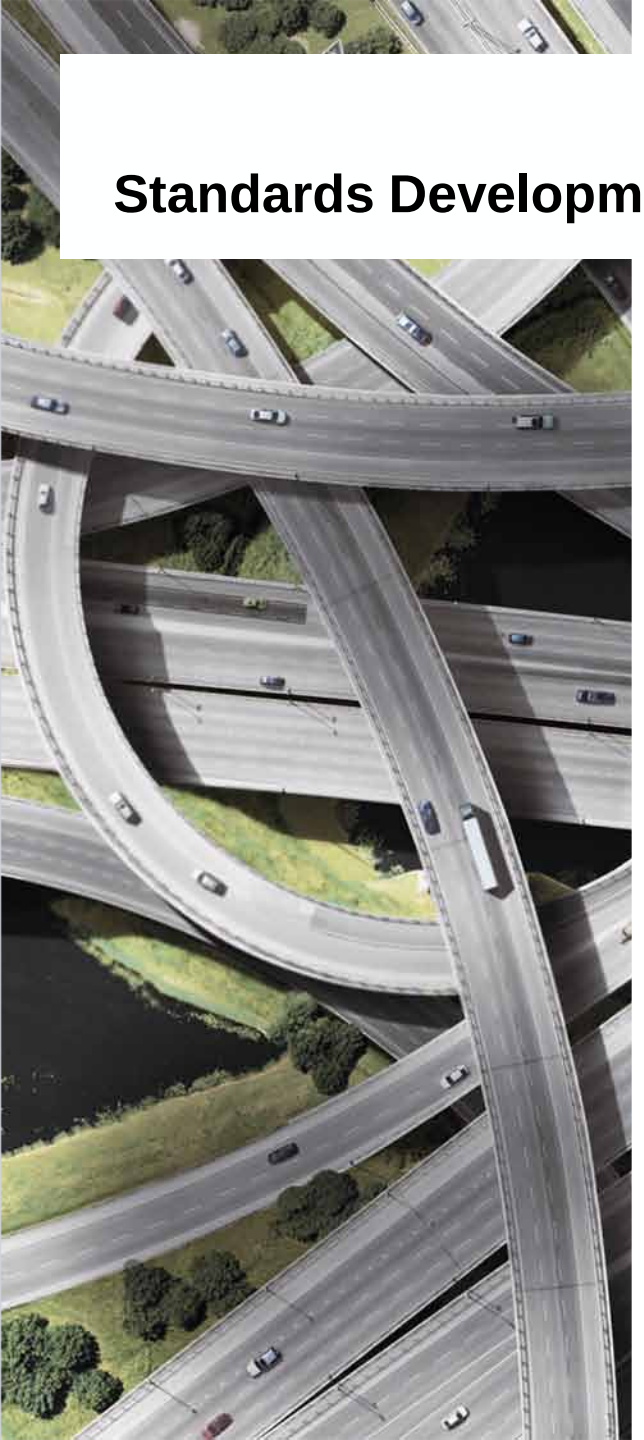
USA Manufacturing

Sacramento, California

Light Rail Trains

Austin, Texas

Traffic Control Equipment



Standards Development: Lessons Learned

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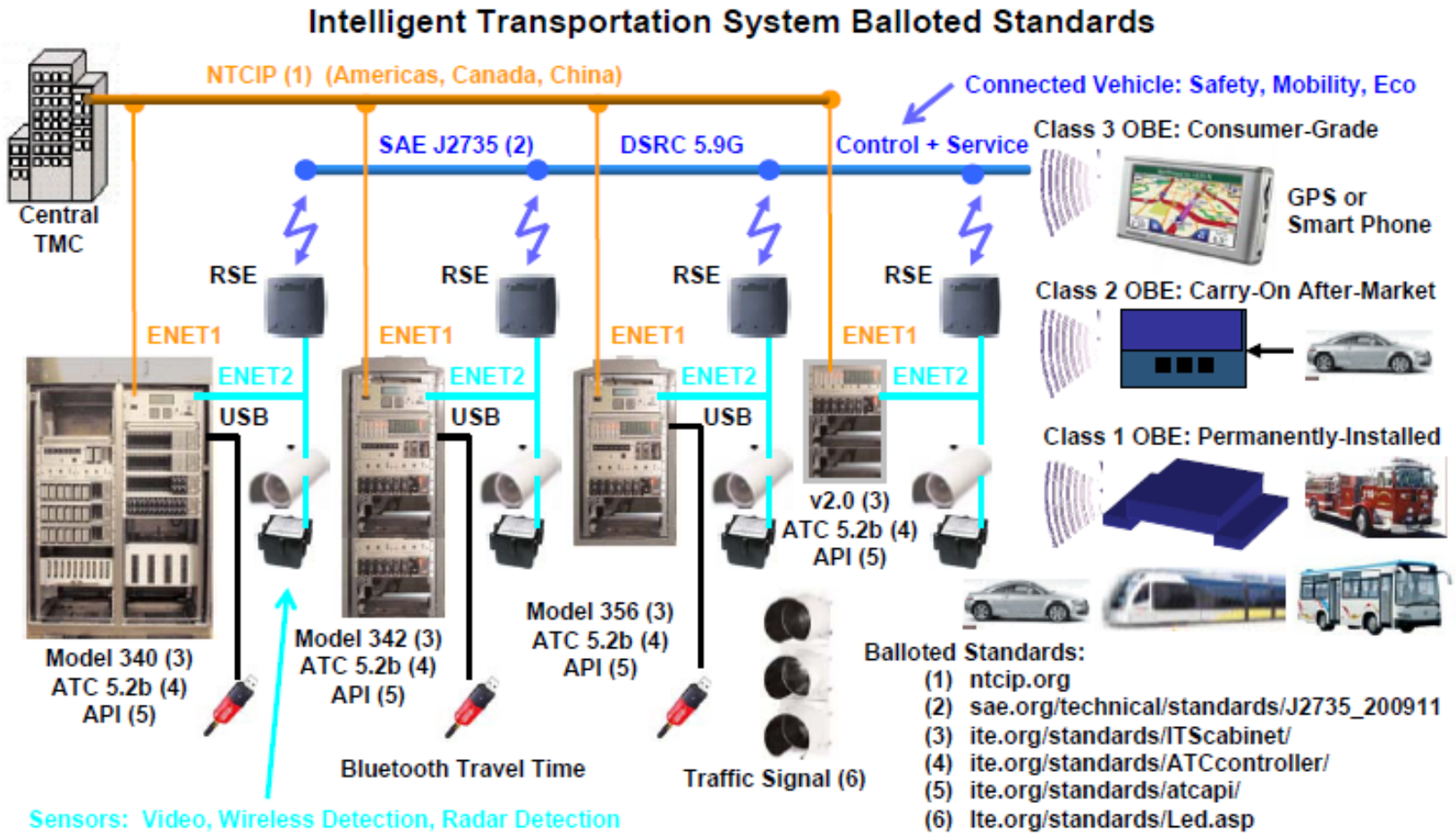
Surface Transportation Standards: *ITE Journal,* May 2010



Advanced Transportation Controller Membership

Advanced Transportation Controller Joint Committee Membership

NEMA Members:

1.	Dave Miller	Siemens ITS, JC Committee Chair
2.	Ray Deer	Peek Traffic
3.	Craig Gardner	Intelight-ITS
4.	Scott Evans	Eberle Design
5.	Kleinjan Deetlefs	McCain
6.	Jon Wyatt	Intelligent Devices, Inc

ITE Members:

1.	Ed Seymour	Texas Transportation Institute
2.	Andrew Mao	Harris County, TX
3.	Robert Rausch	Transcore
4.	Mohamad Talas	New York City DOT
5.	John Thai	City of Anaheim
6.	Vacant	<Replaces Doug Tarico, McCain>

AASHTO Members:

1.	Dave Holstein	Ohio DOT
2.	Guillermo Ramos	New York DOT
3.	Ken Montgomery	Georgia DOT
4.	Jeff McRae	CALTRANS
5.	Vacant	<Replaces Al Kosik, Texas DOT>
6.	Vacant	<Replaces Jack Brown, Florida DOT>

NTCIP: Lessons Learned

Issue: Manufacturer-Specific Objects

Learn: Mandatory objects & data structures

Issue: Interpretation / Incompatibilities

Learn: Prototype à Refine à Test

Issue: Communication rate, capacity

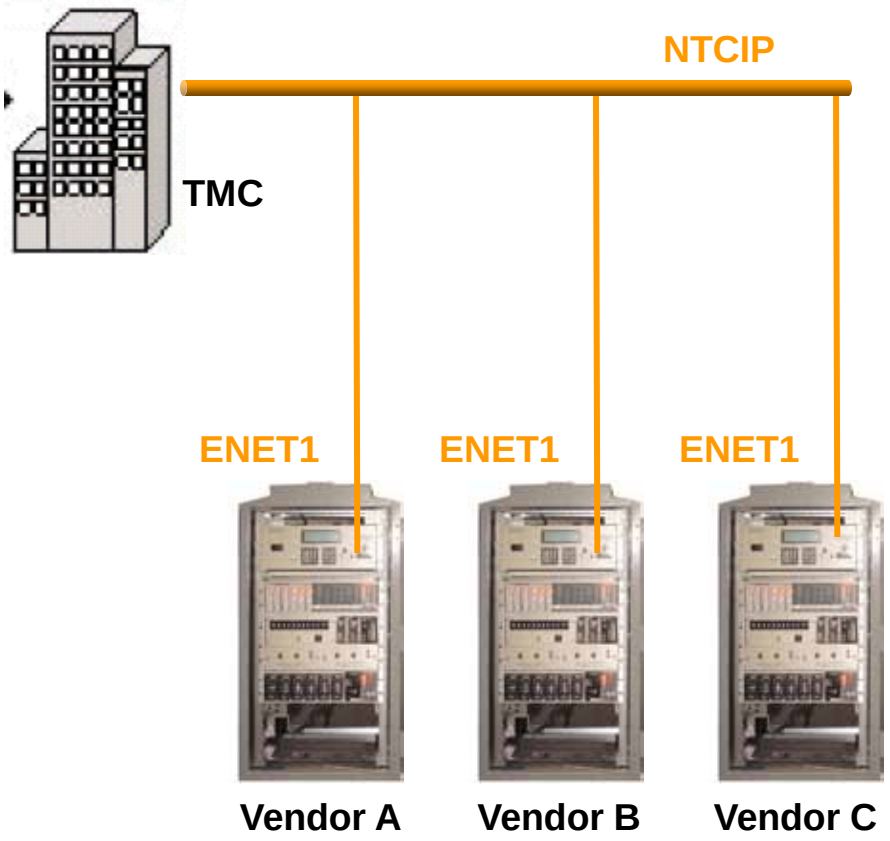
Learn: Collect à Condense à Convey

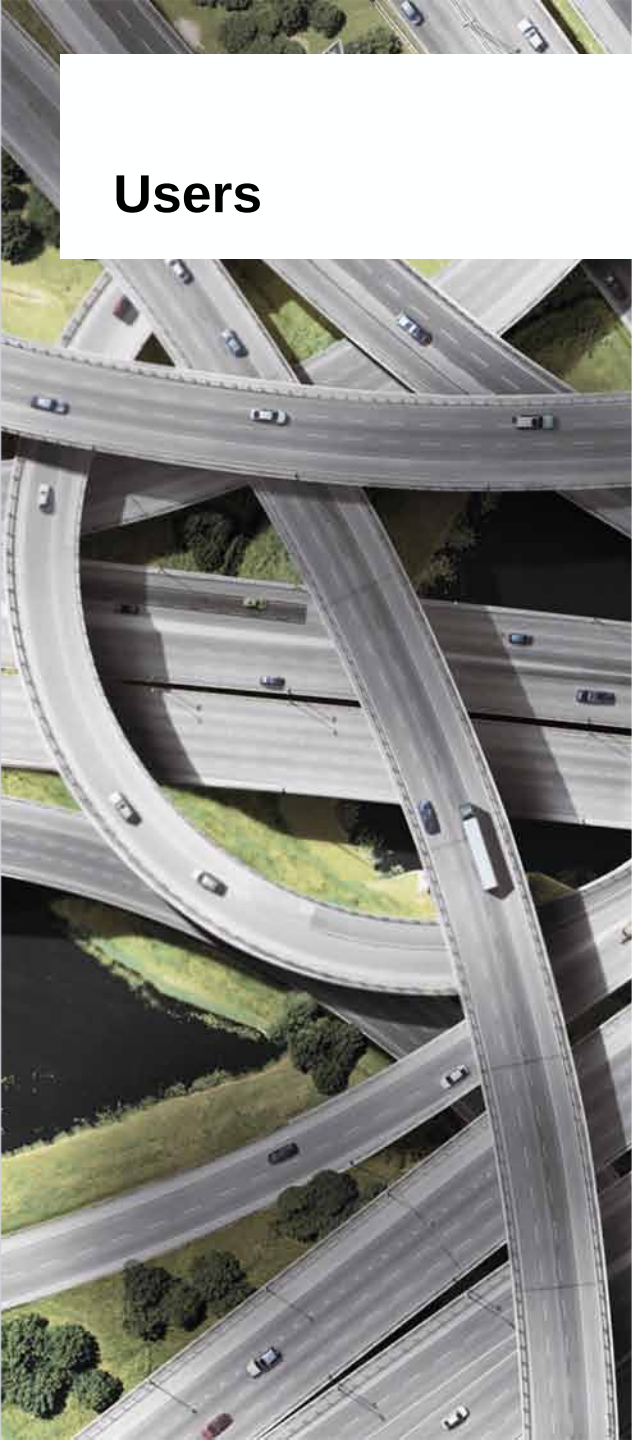
Issue: Latency

Learn: Timestamp

Issue: Long Development, Late Acceptance

Learn: Systems Engineering Process





Users

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User Needs

Scalability: Performance Measure for Wide Cross Section of Users

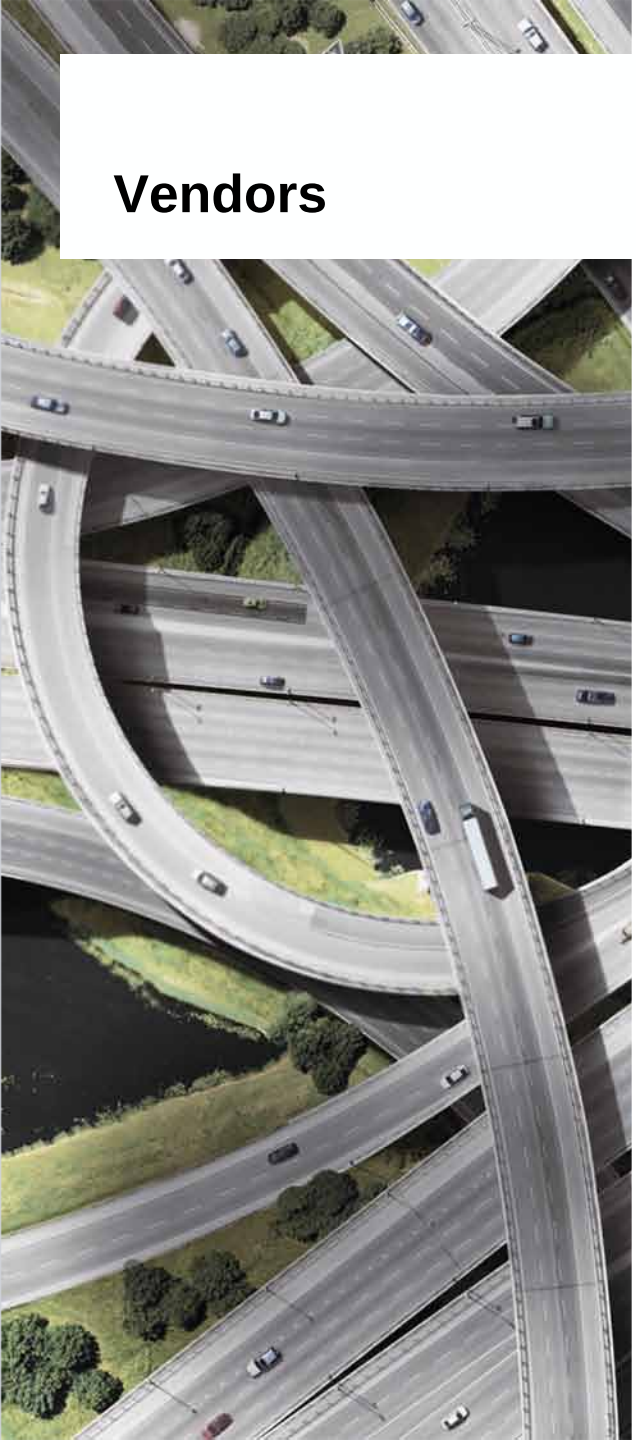
- Solo Intersections
- Corridors
- Urban Grids

Investment Value

- Limited funding must yield true improvements
- Verify improvements
- Could be part of funding model

Measure not Model

- Modeling output only as good as simulated inputs
- Modern technology can record every vehicle actuation



Vendors

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Vendor Needs

Uniform Performance Measure for All

- Level Playing Field
- Apples to Apples

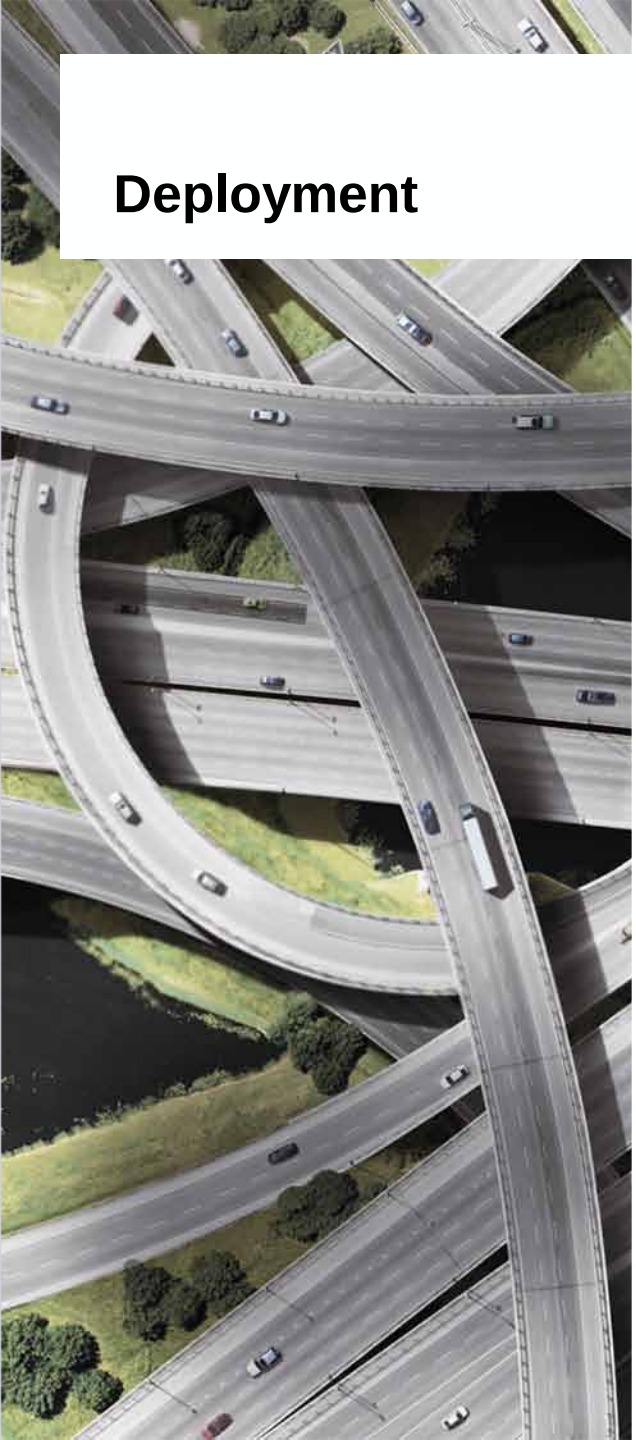
True Improvement Data

- Install and run performance measures “before”
- Update equipment / software / control strategy
- Run performance measures “after”

Widespread Adoption of Uniform Performance Measures

- Need widely-accepted measure
- Published standard, NTCIP node
- Inclusion in bid contracts

Deployment



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Deployment

Correct from the Beginning

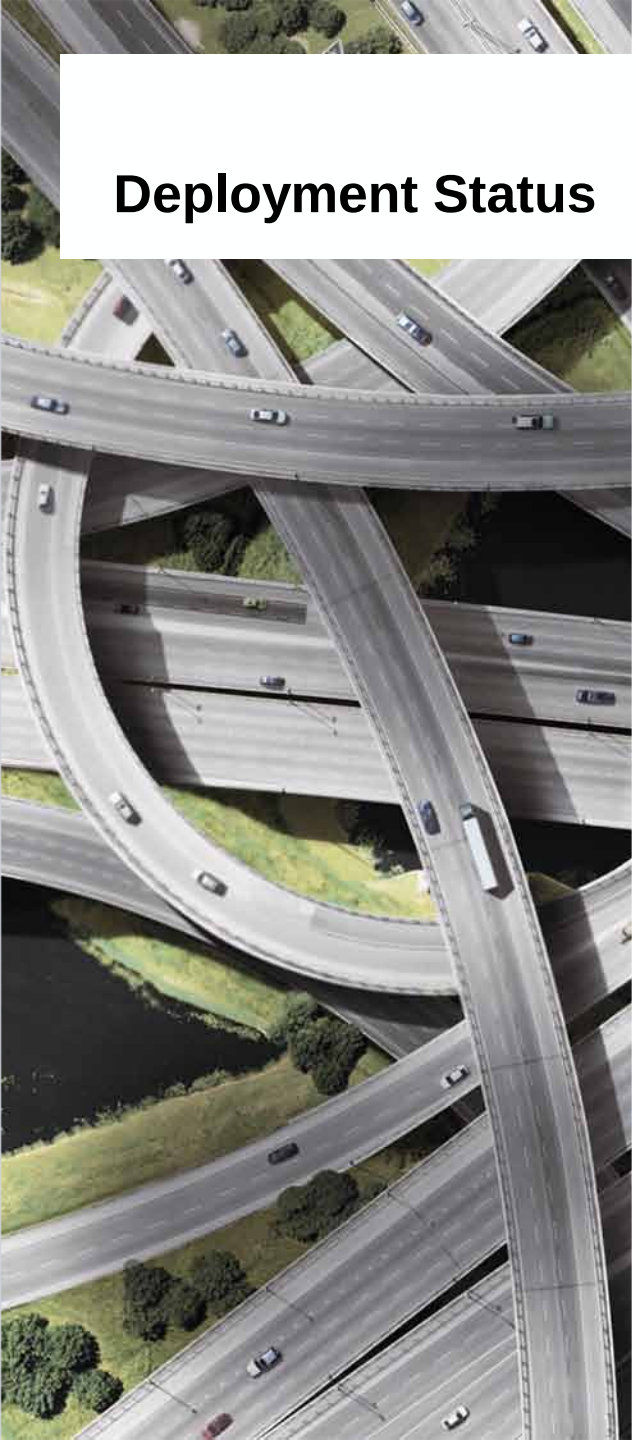
- Expensive to update thousands of intersections, not iterative
- Smallest defect could invalidate large base of historical records

Baseline Hardware and Communications Lifecycle

- Retrofit to older controllers?
- Work on all legacy communications systems?
- Most installations trending towards Ethernet IP, replace legacy

Performance Measures Record the Effect Of:

- Pedestrian Phases
- Transit Priority
- RR Preemption



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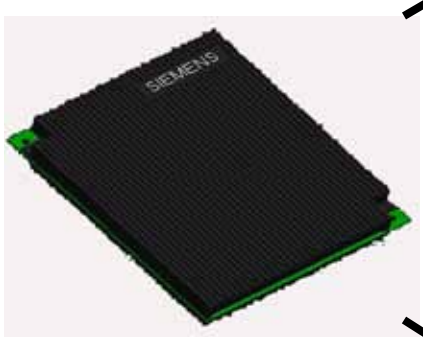
Advanced Transportation Controller (ATC 5.2b)

Rack Mount ATC

2070-1C Retrofit



Shelf Mount ATC

NEMA Retrofit

Engine Board
Embedded Linux 2.6
Interchangeable
Among
Manufacturers
“Future Proofing”

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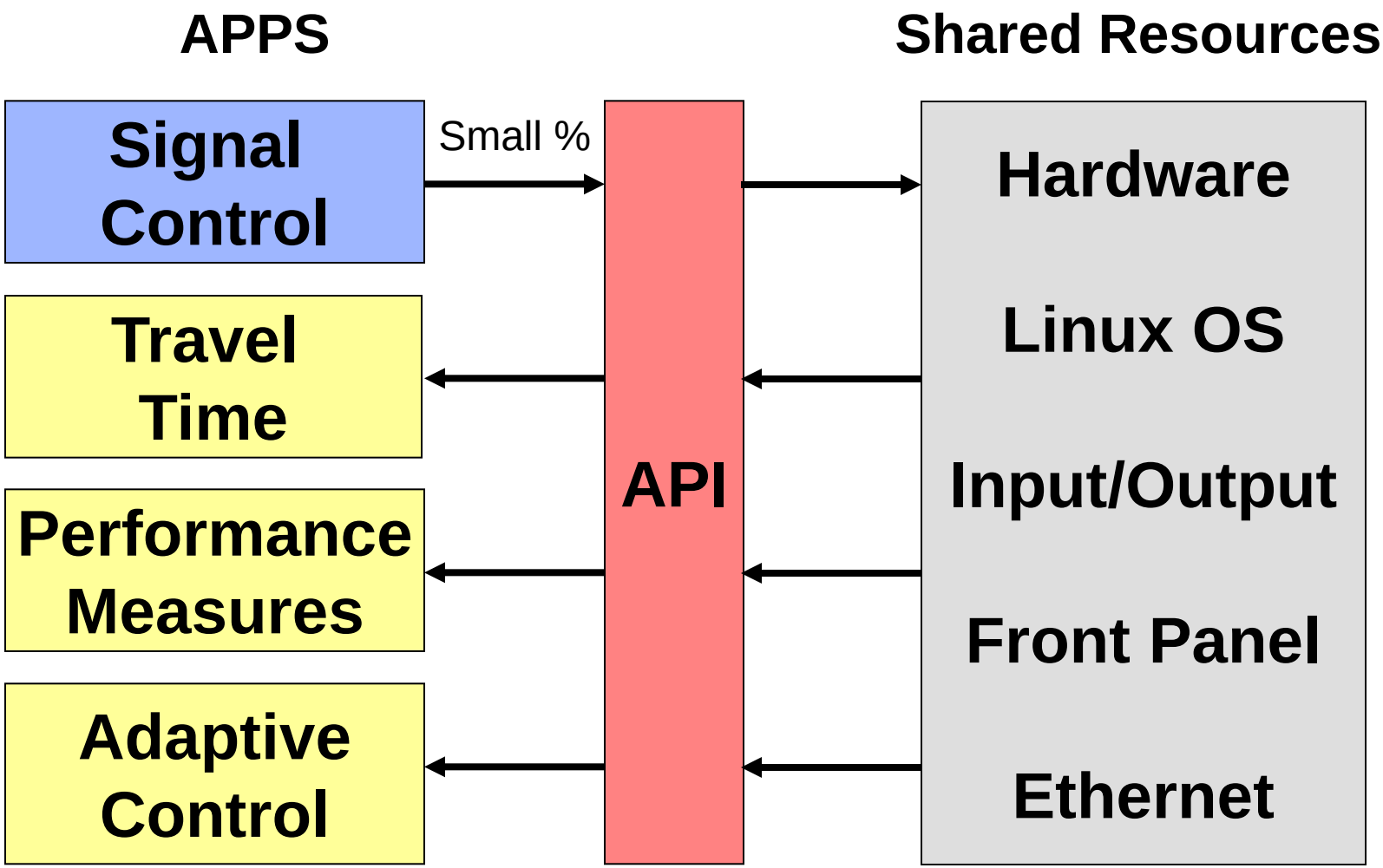
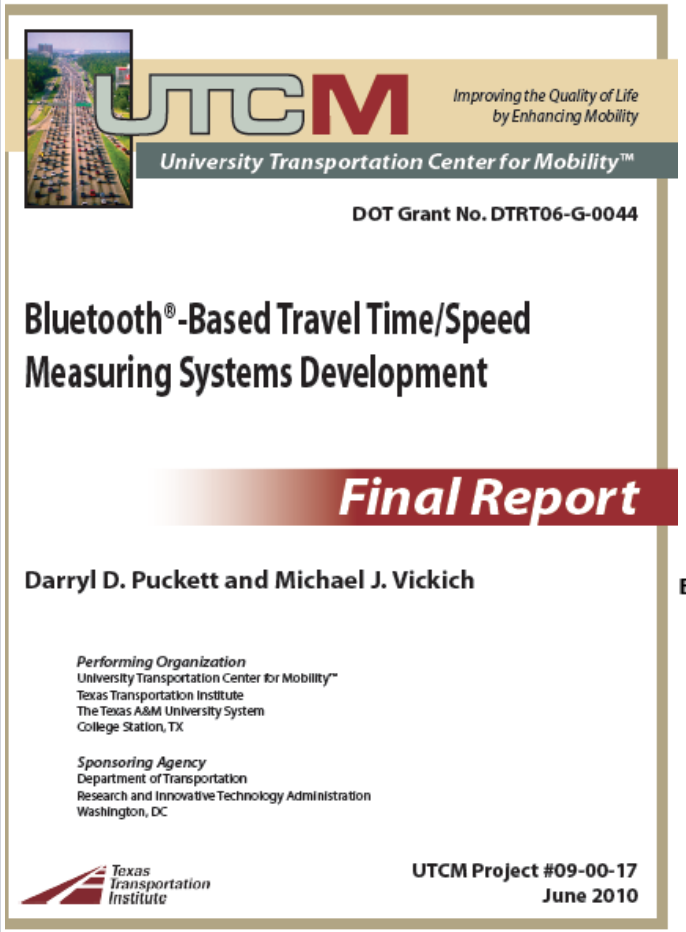
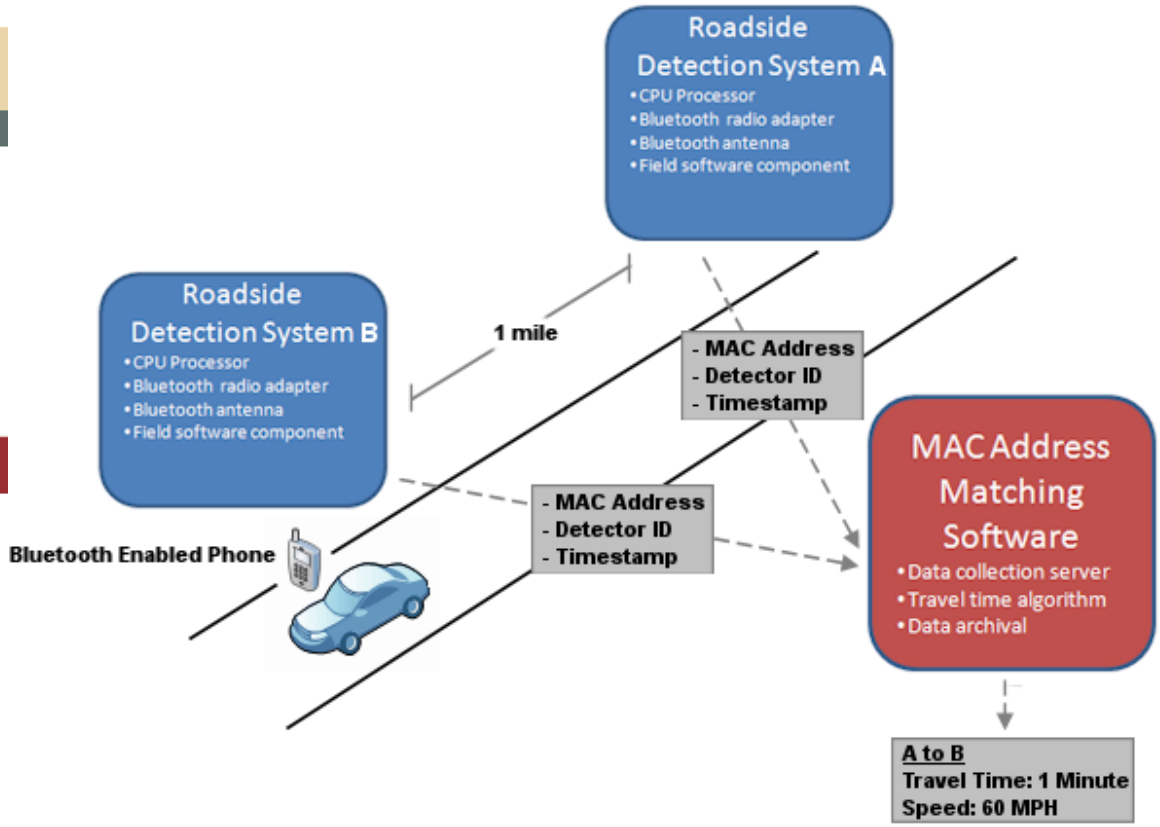
Single Controller, Multiple Applications



Bluetooth Travel Time

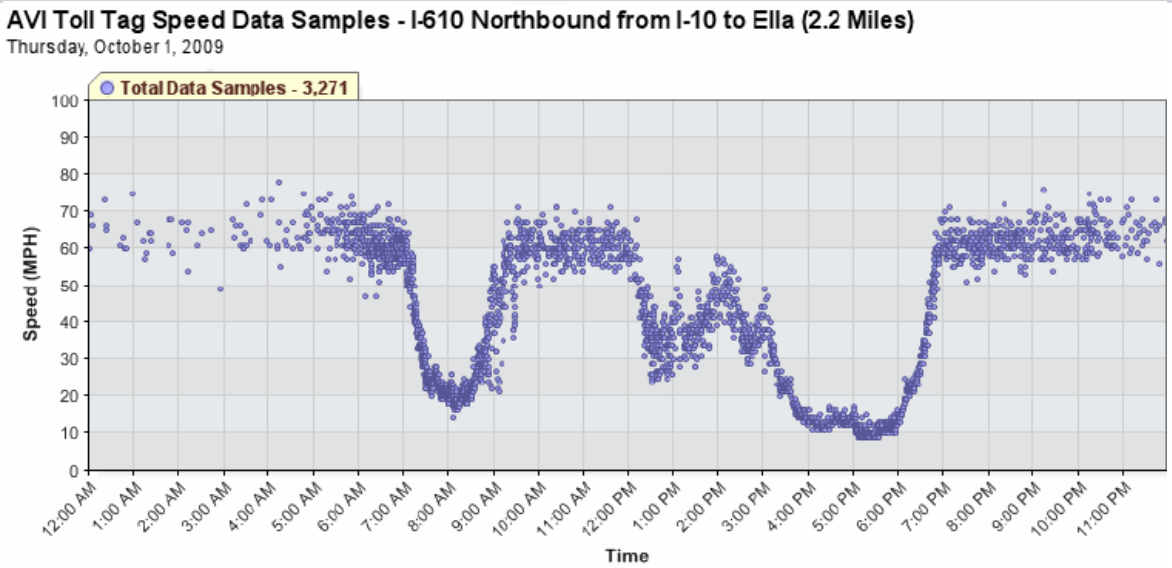




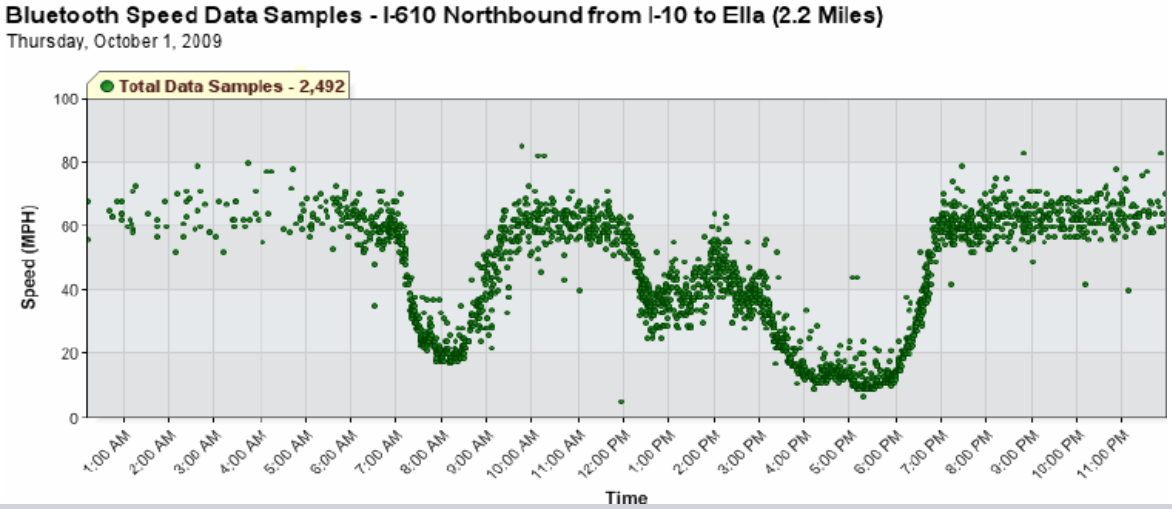
Courtesy of Texas Transportation Institute

Bluetooth Travel Time, October 2009

3,271 matches



2,492 matches



Courtesy of

Texas Transportation Institute

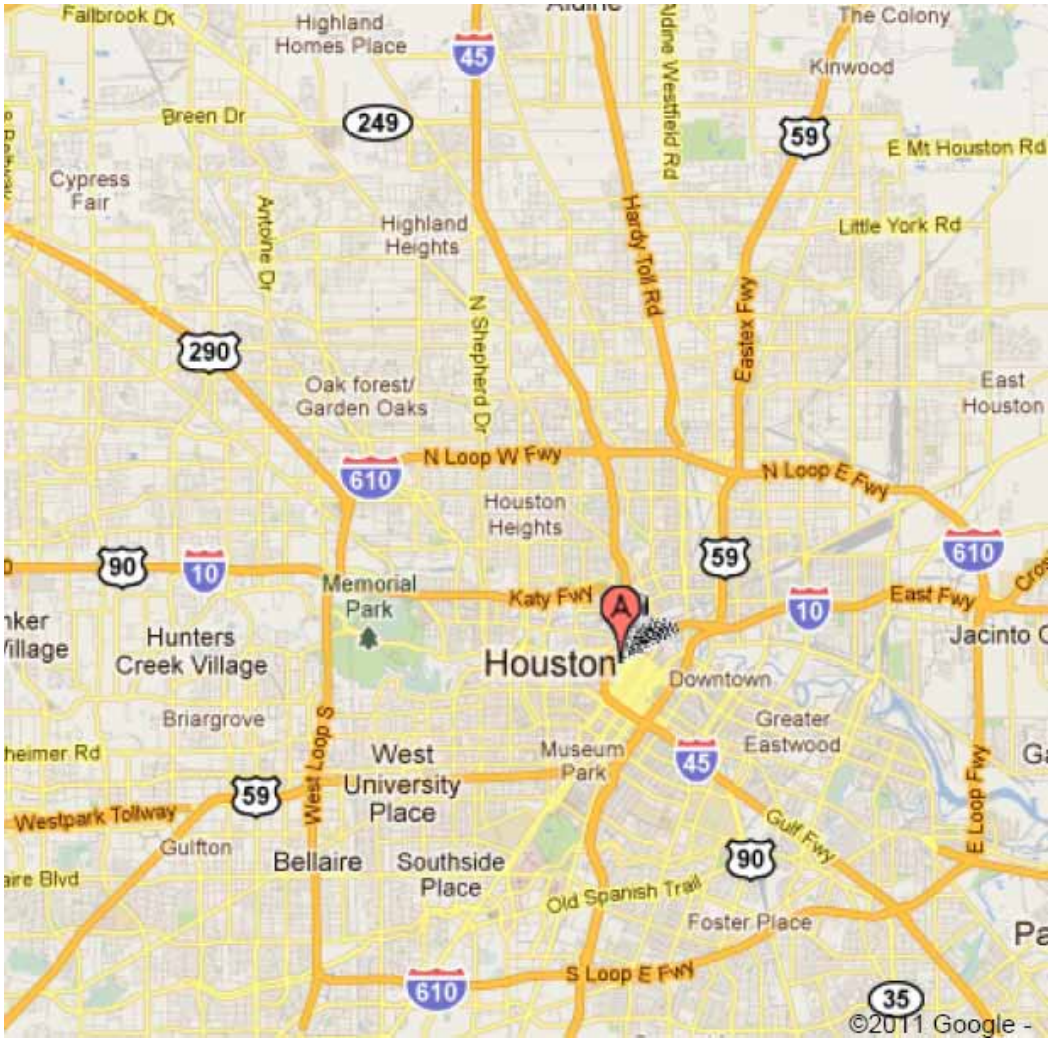
Use Case: ARRA Harris County TX

387 Intersections

- Hurricane Evacuation
- Gulf Coast to Dallas
- Travel Time Software APP
- Performance Measure APP
- Connected Vehicle DSRC Later
- World Congress White Paper

SiTravel APP

Sensor ATC 5.2b



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Thank you for your attention!

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